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Schlumberger Technology Corporation/Osha Liang
Mr. Bryan Galloway, Managing IP Counsel
5599 San Felipe, Suite 100
HOUSTON, TX 77056

| EXAMINER | |
|---|---|
| JARRETT, SCOTT L | |
| **ART UNIT** | **PAPER NUMBER** |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/802,622 | KLUMPEN ET AL. | |
| | **Examiner** | **Art Unit** | |
| | SCOTT L. JARRETT | 3624 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on 25 September 2008.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☐ Claim(s) 1-58 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-58 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

1. This **Final** Office Action is in response to Applicant's amendment filed September 25, 2008. Applicant's amendment amended claims 1-58. Currently claims 1-58 are pending.

### *Response to Amendment*

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

### *Response to Arguments*

3. Applicant's arguments with respect to claims 1-58 have been considered but are moot in view of the new ground(s) of rejection.

It is noted that the applicant did not challenge the officially cited facts in the previous office action(s) therefore those statements as presented are herein after prior art. Specifically it has been established that it was old and well known in the art at the time of the invention:

- that the plurality of well planning 'risks' algorithms/logical expressions for well planning/drilling exist;

- to utilize a plurality of risk categories including at least one of the following: average individual, average subcategory, total, average total, potential risk for each design task and an actual risk for each design task is old and well know.

- that a plurality of well planning 'input data' is old and well known to those skilled in the art of drilling engineering and management including but not limited to: Casing Point Depth, Measured Depth, True Vertical Depth, Mud Weight, Measured Depth, ROP, Pore Pressure, Static Temperature, Pump Rate, Dog Leg Severity, ECD, Inclination, Hole Size, Casing Size, Easting-westing, Northing-Southing,Water Depth, Maximum Water Depth, Maximum well Depth, Kick Tolerance, Drill Collar 1 Weight, Drill Collar 2 Weight, Drill Pipe Weight, Heavy Weight Weight, Drill Pipe Tensile Rating, Upper Wellbore Stability Limit, Lower Wellbore Stability Limit, Unconfined Compressive Strength, Bit Size; Mechanical drilling energy (UCS integrated over distance drilled by the bit), Ratio of footage drilled compared to statistical footage, Cumulative UCS, Cumulative Excess UCS, Cumulative UCS Ratio, Average UCS of rock in section, Bit Average UCS of rock in section, Statistical Bit Hours, Statistical Drilled Footage for the bit, RPM, On Bottom Hours, Calculated Total Bit Revolutions, Time to Trip, Critical Flow Rate, Maximum I Flow Rate in hole section, Minimum Flow Rate in hole section, Flow Rate, Total Nozzle Flow Area of bit, Top Of Cement, Top of Tail slurry, Length of Lead slurry, Length of Tail slurry, Cement Density Of Lead, Cement Density Of Tail slurry, Casing Weight per foot, Casing Burst Pressure, Casing Collapse Pressure, Casing Type Name, Hydrostatic Pressure of Cement column, Start Depth, End Depth, Conductor, Hole Section Begin Depth, Openhole Or Cased hole completion, Casing

Internal Diameter, Casing Outer Diameter, Mud Type, Pore Pressure without Safety Margin, Tubular Burst Design Factor, Casing Collapse Pressure Design Factor, Tubular Tension Design Factor, Derrick Load Rating, Drawworks Rating, Motion Compensator Rating, Tubular Tension rating, Statistical Bit ROP, Statistical Bit RPM, Well Type, Maximum Pressure, Maximum Liner Pressure Rating, Circulating Pressure, Maximum UCS of bit, Air Gap, Casing Point Depth, Presence of H2S, Presence of CO2, Offshore Well, or Flow Rate Maximum Limit; and

- that a plurality of results from the drillstring design task(s) are old and well known to those skilled in the art at the time of the invention wherein such information is commonly created during drillstring design as well as utilized for well planning and/or management including Hole Section Begin Depth, Drill Collar Length, Drill Collar Weight, Drill Collar , Drill Collar 0D, Drill Collar ID, Drill Collar 2 Length, Drill Collar 2 Weight, Drill Collar 2, Drill Collar 20D, Drill Collar 2 ID, Heavy Weight Length, Heavy Weight Weight, Heavy Weight, Heavy Weight OD, Heavy Weight ID, Drill Pipe Length, Drill Pipe Weight, Pipe, Pipe OD, Pipe ID, Drill Pipe Tensile Rating, BHA tools, Duration, Kick Tolerance, Drill Collar Linear Weight, Drill Collar 2 Linear Weight, Heavy Weight Linear Weight, Drill Pipe Linear Weight, DC OD, Drill Collar ID, Drill Collar Linear Weight, HW OD, HW ID, HW Linear Weight, Drill Pipe OD, Drill Pipe ID, or Drill Pipe Linear Weight.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Primavera Project Planner as evidenced by at least Primavera Project Planner Planning and Control Guide Version 3.0 (1999) in view of Choi et al., Task net: Transactional workflow model based on colored Petri net (2002) and further in view of Sriramdas, Systems Analysis of Drilling Engineering and Management To Design a Relational Database (1998).

Regarding Claims 1, 11 and 21 Primavera teaches a planning system and method comprising (Figures on Pages 59, 62):

- selecting one or more tasks (activities) in a task manager (Page 62;
- verifying task dependency a proper order of the one or more tasks (Linking Activities with Relationships, Pages 64-66);
- retrieving from a task base (e.g. baseline schedule) one or more sets of instructions associated with the one or more selected and verified tasks (Pages 153, 195, 214);
- retrieving one or more sets of input data (e.g. cost, schedule, timesheet data) associated with the one or more sets of instructions (Pages 8, 176; Figure on Page 7);

- verifying that each set of input data is received by a corresponding one or more sets of instructions (Paragraph 1, Page 9; Paragraph 1, Page 16; Paragraph 1, Page 68);

- executing the one or more sets of instructions ad using the one or more sets of input data during the execution thereby generating a set of results (Pages 235, 239); and

- recording or displaying the results on a device (Pages 187, 235, 239; Figure on Page 7).

While defining activity dependencies that are described as inputs and outputs necessary for tasks/activities in a project, process or workflow is well known and widely practiced Primavera does not expressly teach that the tasks dependency describes input data attributes and results attributes required for each one or more tasks as claimed.

Choi et al., teaches that the tasks dependency describes input data attributes and results attributes required for each one or more tasks (Column 1, Paragraph 1, Page 388; Column 1, Last Two Paragraphs, Page 392; Column 1, Last Two Paragraphs, Column 2, Paragraph 1, Page 400) in an analogous art of project planning for the purpose of coordinating activities with workflow dependencies (Column 1, Paragraph 3, Page 386).

It would have been obvious to one skilled in the art at the time of the invention that the system and method as taught by Primavera with its ability to define task/activity dependencies would have benefited from that the tasks dependency describes input data attributes and results attributes required for each one or more tasks (task dependencies, task state dependencies; Abstract;) in view of the teachings of Choi et al.; the resultant system/method specifying input and output requirements (data, constraints, parameters, etc.) for each task/activity (Choi et al.: Column 1, Paragraph 3, Page 386; Column 1, Paragraph 1, Page 388).

Further since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

While well planning is old and well neither Primavera nor Choi et al. expressly expressly teach that the intended field of use of the planning system/method is limited to well planning as recited in the *preamble*.

Sriramdas teaches an automatic well planning system and method for drilling engineering and management (Section 2.1.1, Page 7; Figures 3.2, 7.1; Table 7.6) in an analogous art of project management for the purpose of (successfully) managing the plurality of tasks, resources and personnel required in drilling engineering and

management (i.e. oil well drilling; Paragraph 1, Page vi; Paragraph 1, Page 5; Paragraph 2, Page 7).

More generally Sriramdas teaches a plurality of the old and very well known well planning (e.g. drilling engineering and management) tasks and their associated data and algorithms (input/output data, results, logical expressions/equations) including but not limited to (Table 5.1): bit selection (Section 5.4.8, Page 59) and drillstring design (Section 5.3.13, Page 65)

It would have been obvious to one skilled in the art at the time of the invention that the planning system and method as taught by the combination of Primavera and Choi et al., with its ability to be applied to any of a plurality of industries, project types or the like, would have utilized to manage/plan a well planning (oil drilling, drilling engineering) project in view of the teachings of Sriramdas; the resultant system/method enabling users to successfully/effectively manage well planning/drilling tasks/activities (Srirmadas: Paragraph 2, Page 7).

It is noted that generally a preamble is not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See In re Hirao, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and Kropa v. Robie, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

However in an attempt to further prosecution the examiner assumes applicant's will amend the claims to include a positive recitation of the well planning system/method's management of well planning specific tasks.

Regarding Claims 2, 7, 12, 17, 22 and 27 Primavera teaches a planning system and method wherein one or more of the selected tasks includes at least one of the following (selected from the group consisting of): risk assessment (Paragraphs 1, 3-4, Page 40; Page 79), bit selection or drillstring design.

It is noted that the various tasks merely represents non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific tasks being 'managed' by the planning system. Further, the structural elements remain the same regardless of the specific tasks being 'managed' by the planning system. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 38, 385, 27 USPQ 40, 404 (Fed. Cir. 983); In re Lowry, 32 F.3d 579, 32 USPQ2d 03 (Fed. Cir. 994); MPEP 206.*

Regarding Claims 3, 8, 13, 18, 23 and 28 Primavera teaches a planning system and method wherein the instructions include at least one of the following (selected from

the group consisting of) algorithms/logical expressions: risk assessment (Paragraphs 1, 3-4, Page 40; Page 79), bit selection, or drillstring design.

It is noted that the various algorithms associated with the tasks merely represents non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific tasks being 'managed' by the planning system. Further, the structural elements remain the same regardless of the specific tasks being 'managed' by the planning system. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 38, 385, 27 USPQ 40, 404 (Fed. Cir. 983); In re Lowry, 32 F.3d 579, 32 USPQ2d 03 (Fed. Cir. 994); MPEP 206.*

Regarding Claims 4, 9, 14, 19, 24 and 29 Primavera teaches a planning system and method wherein the input data includes at least one of the following: risk assessment (Paragraphs 1, 3-4, Page 40; Page 79), bit selection, or drillstring design wherein the data is provided to the corresponding algorithms/logical expressions.

It is noted that the various input data associated with the various tasks merely represent non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific tasks being 'managed' by the

planning system. Further, the structural elements remain the same regardless of the specific tasks being 'managed' by the planning system. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 38, 385, 27 USPQ 40, 404 (Fed. Cir. 983); In re Lowry, 32 F.3d 579, 32 USPQ2d 03 (Fed. Cir. 994); MPEP 206.*

Regarding Claims 5, 10, 15, 20, 25 and 30 Primavera teaches a planning system and method wherein the results include at least one of the following output data: risk assessment (Paragraphs 1, 3-4, Page 40; Page 79), bit selection or drillstring design.

It is noted that the various results associated with the various tasks merely represent non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific tasks being 'managed' by the planning system. Further, the structural elements remain the same regardless of the specific tasks being 'managed' by the planning system. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 38, 385, 27 USPQ 40, 404 (Fed. Cir. 983); In re Lowry, 32 F.3d 579, 32 USPQ2d 03 (Fed. Cir. 994); MPEP 206.*

Regarding Claims 6, 16 and 26 Primavera teaches a planning system and method further comprising (Managing Change, Page 193):

- changing, in response to user input, the one or more input data thereby generating one or more sets of changed input data (Paragraphs 1, 3, Page 9);

- re-executing at least a portion of the one or more sets of instructions using the one or more sets of changed input data thereby generating a second set of results (Paragraphs 5-6, Page 53; Paragraph 1, Page 70); and

- recording or displaying the second set of results (Paragraphs 5-6, Page 53).

Regarding Claims 31 and 45 Primavera teaches a planning system and method wherein the one or more selected tasks comprising a risk assessment task for generating risk information in response to one or more sets of input data (Paragraphs 1, 3-4, Page 40; Page 79).

Regarding Claims 32 and 46 Primavera teaches a planning system and method wherein the set of results for the risk task comprising risk information including individual, subcategory and/or risk categories (Paragraphs 1, 3-4, Page 40; Page 79).

Regarding Claims 33 and 47 Primavera does not expressly teach that the individual risks comprise at least one of the common and well known risks as claimed.

Sriramdas teaches an automatic well planning system wherein the individual risks comprises *at least one of the following* (selected from the group consisting of; Page 52; Table 5.1; Section 5.1.3, Page 51; Figures 3.1, 3.2): H2S and CO2, Hydrates,

Well water depth, Tortuosity, Dogleg severity, Directional Drilling Index, Inclination, Horizontal displacement, Casing Wear, High pore pressure, Low pore pressure, Hard rock, Soft Rock, High temperature, Water-depth to rig rating, Well depth to rig rating, mud weight to kick, mud weight to losses, mud weight to fracture, mud weight window, Wellbore stability window, wellbore stability, Hole section length, Casing design factor, Hole to casing clearance, casing to casing clearance, casing to bit clearance, casing linear weight, Casing maximum overputt, Low top of cement, Cement to kick, cement to losses, cement to fracture, Bit excess work, Bit work, Bit footage, bit hours, Bit revolutions, Bit Rate of Penetration, Drillstring maximum overputt, Bit compressive strength, Kick tolerance, Critical flow rate, Maximum flow rate, Small nozzle area, Standpipe pressure, ECD to fracture, ECD to losses, Gains, Gains Average, Losses, Losses average, Stuck, Stuck average, Mechanical, Mechanical average, Risk Average, Subsea BOP, Large Hole, Small Hole, Number of casing strings, Drillstring parting, or Cuttings.

It would have been obvious to one skilled in the art at the time of the invention that the planning system and method as taught by Primavera, with its ability to be applied to any of a plurality of industries, project types or the like, and to assess and analyze risks would have utilized to manage/plan a well planning (oil drilling, drilling engineering) project in view of the teachings of Sriramdas; the resultant system/method enabling users to successfully/effectively manage well planning/drilling tasks/activities

(Srirmadas: Paragraph 2, Page 7) as well as analyze the impact of potential project risks (Primavera: Page 79).

Additionally official notice is taken that the plurality of well planning 'risks' are old and well known to those skilled in the art of drilling engineering and management.

Further it is noted that the plurality of 'risks' merely represent non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific tasks risks identified by the planning system. Further, the structural elements remain the same regardless of the specific risks identified planning system. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 38, 385, 27 USPQ 40, 404 (Fed. Cir. 983); In re Lowry, 32 F.3d 579, 32 USPQ2d 03 (Fed. Cir. 994); MPEP 206.*

Regarding Claims 34 and 48 Primavera does not expressly teach that the subcategory risk information includes the well planning specific risks as claimed.

Sriramdas teaches an automatic well planning system teaches a planning system and method wherein the subcategory risk information *includes at least one of the*

*following* (Page 52; Table 5.1; Section 5.1.3, Page 51; Figures 3.2, 3.1): gains, losses, stuck pipe and mechanical risks.

It would have been obvious to one skilled in the art at the time of the invention that the planning system and method as taught by Primavera, with its ability to be applied to any of a plurality of industries, project types or the like, and to assess and analyze risks would have utilized to manage/plan a well planning (oil drilling, drilling engineering) project in view of the teachings of Sriramdas; the resultant system/method enabling users to successfully/effectively manage well planning/drilling tasks/activities (Srirmadas: Paragraph 2, Page 7) as well as analyze the impact of potential project risks (Priamvera: Page 79).

Additionally official notice is taken that the plurality of well planning 'risks' are old and well known to those skilled in the art of drilling engineering and management.

Further it is noted that the plurality of 'risks' merely represent non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific tasks risks identified by the planning system. Further, the structural elements remain the same regardless of the specific risks identified planning system. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 38, 385,*

*27 USPQ 40, 404 (Fed. Cir. 983); In re Lowry, 32 F.3d 579, 32 USPQ2d 03 (Fed. Cir. 994); MPEP 206.*

Regarding Claims 35 and 49 Primavera does not expressly teach that the one or more risk categories as claimed.

Official notice is taken that the plurality of well planning 'risks' are old and well known to those skilled in the art of drilling engineering and management. Specifically official notice is taken that utilizing a plurality of risk categories including at least one of the following: average individual, average subcategory, total, average total, potential risk for each design task and an actual risk for each design task is old and well know.

For example comparing actual to potential/predicted risks and/or averaging risks in a particular group/category are common project management risk analysis and assessment tools used to do such things are identify and mitigate project schedule risks.

It would have been obvious to one skilled in the art at the time of the invention that the automatic well planning system and method as taught by the combination of Primavera and Sriramdas would have benefited from utilizing any of a plurality of risk analysis/assessment tools/approaches including categorizing risks in view of the teachings of official notice; the resultant system/method assisting project managers in identifying and mitigating project risks.

Further it is noted that the plurality of 'risks' merely represent non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific tasks risks identified by the planning system. Further, the structural elements remain the same regardless of the specific risks identified planning system. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 38, 385, 27 USPQ 40, 404 (Fed. Cir. 983); In re Lowry, 32 F.3d 579, 32 USPQ2d 03 (Fed. Cir. 994); MPEP 206.*

Regarding Claims 36 and 50 Primavera does not expressly teach that the one or more input data sets include the common and well known well planning specific input data as claimed.

Sriramdas teaches a planning system and method wherein the one or more sets of input data include *at least one of the following* (Sections 5.4.2, 5.4.3, Page 55; Section 5.4.6, Page 57-58): Casing Point Depth, Measured Depth, True Vertical Depth, Mud Weight, Measured Depth, ROP, Pore Pressure, Static Temperature, Pump Rate, Dog Leg Severity, ECD, Inclination, Hole Size, Casing Size, Easting-westing, Northing-Southing,Water Depth, Maximum Water Depth, Maximum well Depth, Kick Tolerance, Drill Collar 1 Weight, Drill Collar 2 Weight, Drill Pipe Weight, Heavy Weight Weight, Drill

Pipe Tensile Rating, Upper Wellbore Stability Limit, Lower Wellbore Stability Limit, Unconfined Compressive Strength, Bit Size; Mechanical drilling energy (UCS integrated over distance drilled by the bit), Ratio of footage drilled compared to statistical footage, Cumulative UCS, Cumulative Excess UCS, Cumulative UCS Ratio, Average UCS of rock in section, Bit Average UCS of rock in section, Statistical Bit Hours, Statistical Drilled Footage for the bit, RPM, On Bottom Hours, Calculated Total Bit Revolutions, Time to Trip, Critical Flow Rate, Maximum I Flow Rate in hole section, Minimum Flow Rate in hole section, Flow Rate, Total Nozzle Flow Area of bit, Top Of Cement, Top of Tail slurry, Length of Lead slurry, Length of Tail slurry, Cement Density Of Lead, Cement Density Of Tail slurry, Casing Weight per foot, Casing Burst Pressure, Casing Collapse Pressure, Casing Type Name, Hydrostatic Pressure of Cement column, Start Depth, End Depth, Conductor, Hole Section Begin Depth, Openhole Or Cased hole completion, Casing Internal Diameter, Casing Outer Diameter, Mud Type, Pore Pressure without Safety Margin, Tubular Burst Design Factor, Casing Collapse Pressure Design Factor, Tubular Tension Design Factor, Derrick Load Rating, Drawworks Rating, Motion Compensator Rating, Tubular Tension rating, Statistical Bit ROP, Statistical Bit RPM, Well Type, Maximum Pressure, Maximum Liner Pressure Rating, Circulating Pressure, Maximum UCS of bit, Air Gap, Casing Point Depth, Presence of H2S, Presence of CO2, Offshore Well, or Flow Rate Maximum Limit.

It would have been obvious to one skilled in the art at the time of the invention that the planning system and method as taught by Primavera, would have utilized any of

a plurality of common ‘input data’ necessary to manage well planning in view of the teachings of Sriramdas; the resultant system/method enabling users to successfully/effectively manage well planning/drilling tasks/activities (Srirmadas: Paragraph 2, Page 7).

Additionally official notice is taken that the plurality of well planning ‘input data’ are old and well known to those skilled in the art of drilling engineering and management.

Further it is noted that the plurality of ‘input data’ merely represent non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific input data utilized by the planning system. Further, the structural elements remain the same regardless of the specific input data utilized by the planning system. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 38, 385, 27 USPQ 40, 404 (Fed. Cir. 983); In re Lowry, 32 F.3d 579, 32 USPQ2d 03 (Fed. Cir. 994); MPEP 206.*

Regarding Claims 37 and 51 Primavera does not expressly teach that one of the selected tasks is a bit selection task as claimed.

Sriramdas teaches an automatic well planning system teaches a planning system and method wherein the one or more selected tasks further comprises a bit selection task adapted for generating a sequence of drill bits and other associated data in response to the input data (Section 5.4.8, Page 59).

It would have been obvious to one skilled in the art at the time of the invention that the planning system and method as taught by Primavera, would have utilized been utilized to manage any of a plurality of well known well planning and management tasks including but not limited to bit selection in view of the teachings of Sriramdas; the resultant system/method enabling users to successfully/effectively manage well planning/drilling tasks/activities (Srirmadas: Paragraph 2, Page 7).

It is noted that the bit selection task merely represent non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific tasks managed by the planning system. Further, the structural elements remain the same regardless of the specific tasks managed by the planning system. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 38, 385, 27 USPQ 40, 404 (Fed. Cir. 983); In re Lowry, 32 F.3d 579, 32 USPQ2d 03 (Fed. Cir. 994); MPEP 206.*

Regarding Claims 38 and 52 Primavera does not expressly teach that one of the selected tasks is bit selection or subsequently that the results include the common and well known bit selection results as claimed.

Sriramdas teaches an automatic well planning system teaches a planning system and method wherein the results for the bit selection task are recorded or displaying and including a sequence of drill bits and other associated data (Section 5.4.8, Page 59).

It would have been obvious to one skilled in the art at the time of the invention that the planning system and method as taught by Primavera, would have utilized been utilized to manage any of a plurality of well known well planning and management tasks including but not limited to bit selection in view of the teachings of Sriramdas; the resultant system/method enabling users to successfully/effectively manage well planning/drilling tasks/activities (Srirmadas: Paragraph 2, Page 7).

It is noted that the bit selection task merely represent non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific tasks managed by the planning system. Further, the structural elements remain the same regardless of the specific tasks managed by the planning system. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 38, 385,*

*27 USPQ 40, 404 (Fed. Cir. 983); In re Lowry, 32 F.3d 579, 32 USPQ2d 03 (Fed. Cir. 994); MPEP 206.*

Regarding Claims 39 and 53 Primavera does not expressly teach that one of the tasks includes bit selection or subsequently that the results include the common and well known bit selection results as claimed.

Sriramdas teaches an automating well planning system and method wherein the results of the bit selection task displayed/recorded includes at least one of the following: Measured Depth, Cumulative Unconfined Compressive Strength (UCS), Cumulative Excess UCS, Bit Size, Bit Type, Start Depth, End Depth, Hole Section Begin Depth, Average UCS of rock in section, Maximum UCS of bit, Bit Average UCS of rock in section, Footage, Statistical Drilled Footage for the bit, Ratio of footage drilled compared to statistical footage, Statistical Bit Hours, On Bottom Hours, Rate of Penetration (ROP), Statistical Bit Rate of Penetration (ROP), Mechanical drilling energy (UCS integrated over distance drilled by the bit),Weight On Bit, Revolutions per Minute (RPM), Statistical Bit RPM, Calculated Total Bit Revolutions, Time to Trip, Cumulative Excess as a ration to the Cumulative UCS, Bit Cost, or Hole Section Name (Section 5.4.8, Page 59).

It would have been obvious to one skilled in the art at the time of the invention that the planning system and method as taught by Primavera, would have utilized been utilized to manage any of a plurality of well known well planning and management tasks including but not limited to bit selection in view of the teachings of Sriramdas; the resultant system/method enabling users to successfully/effectively manage well planning/drilling tasks/activities (Srirmadas: Paragraph 2, Page 7).

Regarding Claims 40 and 54 Primavera does not expressly teach drill bit selection or the associaited input data as claimed.

Sriramdas teaches an automated well planning system and method wherein the input data sets for the bit selection task include *at least one of the following*: Measured Depth, Unconfined Compressive Strength, Casing Point Depth, Hole Size, Conductor, Casing Type Name, Casing Point, Day Rate Rig, Spread Rate Rig, and Hole Section Name (Section 5.4.8, Page 59).

It would have been obvious to one skilled in the art at the time of the invention that the planning system and method as taught by Primavera, would have utilized been utilized to manage any of a plurality of well known well planning and management tasks including but not limited to bit selection in view of the teachings of Sriramdas; the resultant system/method enabling users to successfully/effectively manage well planning/drilling tasks/activities (Srirmadas: Paragraph 2, Page 7).

Regarding Claims 41 and 55 Primavera does not expressly teach a drillstring design task as claimed.

Sriramdas teaches an automated well planning system and method wherein the one or more selected tasks comprising a drillstring design task adapted for generated a summary of drillstring in each hole of a wellbore in response to the input data (Section 5.3.13, Page 65).

It would have been obvious to one skilled in the art at the time of the invention that the planning system and method as taught by Primavera, would have utilized been utilized to manage any of a plurality of well known well planning and management tasks including but not limited to drillstring design in view of the teachings of Sriramdas; the resultant system/method enabling users to successfully/effectively manage well planning/drilling tasks/activities (Srirmadas: Paragraph 2, Page 7).

Regarding Claims 42 and 56 Primavera does not expressly teach that one of the tasks include drillstring design as claimed.

Sriramdas teaches an automated well planning system and method wherein the results for the dirllstring design task comprising a summary of a drillstring in each hole section of a wellbore (Section 5.3.13, Page 65).

It would have been obvious to one skilled in the art at the time of the invention that the planning system and method as taught by Primavera, would have utilized been utilized to manage any of a plurality of well known well planning and management tasks including but not limited to drillstring design in view of the teachings of Sriramdas; the resultant system/method enabling users to successfully/effectively manage well planning/drilling tasks/activities (Srirmadas: Paragraph 2, Page 7).

Regarding Claims 43 ad 57 Primavera does not expressly teach that the tasks include a drillstring tasks as claimed.

Sriramdas teaches an automated well planning system and method wherein the results for the drillstring design task include at least one of the following: Hole Section Begin Depth, Drill Collar Length, Drill Collar Weight, Drill Collar , Drill Collar 0D, Drill Collar ID, Drill Collar 2 Length, Drill Collar 2 Weight, Drill Collar 2, Drill Collar 20D, Drill Collar 2 ID, Heavy Weight Length, Heavy Weight Weight, Heavy Weight, Heavy Weight OD, Heavy Weight ID, Drill Pipe Length, Drill Pipe Weight, Pipe, Pipe OD, Pipe ID, Drill Pipe Tensile Rating, BHA tools, Duration, Kick Tolerance, Drill Collar Linear Weight, Drill Collar 2 Linear Weight, Heavy Weight Linear Weight, Drill Pipe Linear Weight, DC OD, Drill Collar ID, Drill Collar Linear Weight, HW OD, HW ID, HW Linear Weight, Drill Pipe OD, Drill Pipe ID, or Drill Pipe Linear Weight (Section 5.3.13, Page 65).

It would have been obvious to one skilled in the art at the time of the invention that the planning system and method as taught by Primavera, would have utilized been utilized to manage any of a plurality of well known well planning and management tasks including but not limited to drillstring design in view of the teachings of Sriramdas; the resultant system/method enabling users to successfully/effectively manage well planning/drilling tasks/activities (Srirmadas: Paragraph 2, Page 7).

Official notice is taken that the plurality of results from the drillstring design task are old and well known to those skilled in the art at the time of the invention wherein such information is commonly created during drillstring design as well as utilized for well planning and/or management.

Further it is noted that the various drillstring results data related to the drillstring design task merely represents non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific drillstring intput data utilized as part of the drillstring design task. Further, the structural elements remain the same regardless of the specific drillstring intput data utilized as part of the drillstring design task. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 38, 385, 27 USPQ 40, 404 (Fed. Cir. 983); In re Lowry, 32 F.3d 579, 32 USPQ2d 03 (Fed. Cir. 994); MPEP 206.*

Regarding Claims 44 and 58 Primavera does not expressly teach that one of the tasks includes drillstring task as claimed.

Sriramdas teaches an automated well planning system and method wherein the one or more input data sets for the drillstring design in includes at least one of the following: Measured Depth, True Vertical Depth, Weight On Bit, Mud Weight, Mud Weight Measured Depth, Inclination, Casing Point Depth, Hole Size, Footage, Rate of Penetration, Time to Trip, Dog Leg Severity, True Vertical Depth, Pore Pressure without Safety Margin, Bit Size, Upper Wellbore Stability Limit, Lower Wellbore Stability Limit, Openhole Or Cased hole completion, BOP Location, Casing Type Name, Hole Section Name, Conductor, Start Depth, End Depth, On Bottom Hours, Statistical Drilled Footage for the bit, Cumulative UCS, Casing Point, Casing Size, Casing Burst Pressure, Casing Collapse Pressure, Casing Connector, Casing Cost, Casing Grade, Casing Weight per foot, Casing Outer Diameter, Casing Internal Diameter, Air Gap, Casing Top Measure Depth, Water Depth, Top of Tail slurry, Top Of Cement, Mud Volume, or Offshore Well (Section 5.3.13, Page 65).

It would have been obvious to one skilled in the art at the time of the invention that the planning system and method as taught by Primavera, would have utilized been utilized to manage any of a plurality of well known well planning and management tasks including but not limited to drillstring design in view of the teachings of Sriramdas; the

resultant system/method enabling users to successfully/effectively manage well planning/drilling tasks/activities (Srirmadas: Paragraph 2, Page 7).

Official notice is taken that the plurality of drillstring input data including the combination of the drill pipe, the bottom hole assembly and any other tools used to make the drill bit turn at the bottom of the wellbore) input data related to drillstring design are old and well known to those skilled in the art at the time of the invention wherein such information is commonly used in drillstring desig as well as well planning and/or management.

Further it is noted that the various drillstring input data related to the drillstring design task merely represents non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific drillstring intput data utilized as part of the drillstring design task. Further, the structural elements remain the same regardless of the specific drillstring intput data utilized as part of the drillstring design task. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 38, 385, 27 USPQ 40, 404 (Fed. Cir. 983); In re Lowry, 32 F.3d 579, 32 USPQ2d 03 (Fed. Cir. 994); MPEP 206.*

## ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Harel et al., Statemate: A working environment for the development of complex reactive systems (1988), teaches an automated project (process, workflow) planning system and method wherein input and output requirements (triggers, conditions - i.e. data) are defined for the plurality of tasks/activities in the process.

- Attie et al., Scheduling workflows by enforcing intertask dependencies (1996), teach an automated planning system and method comprising verifying by a task

dependency a proper order of one or more selected project tasks wherein the task dependency describes input data and results data required for each of the one or more tasks.

- Nastanksy, Conceptual Design and Implementation of a Graphical Workflow Modeling Editor in the Context of Distributed Groupware Databases (1994), teach a system and method for automated workflow management.

- Action Workflow – Enterprise Series 3.0 Process Builder User's Guide (1996), teaches a commercially available workflow management system and method for automating business process planning and execution wherein users can define and enforce a proper order of tasks/activities within a business process (project, workflow) wherein task dependencies describe input data and results/output data required for each one or more of the tasks.

- Vijayalakshmi et al., Modeling and Evaluation of Redesigning Methodologies for Distributed Workflows (2000), teaches a process/workflow planning method comprising defined task dependencies wherein the task dependencies describe input and output data/attributes (conditions, etc.) for one or more tasks.

- Teamware Flow User's Guide (2000), teaches a commercially available workflow management system and method wherein workflows comprise a plurality of inter-related and dependent tasks/activities wherein the task dependencies describe input and output (results) data/attributes required for one or more of the tasks.

- Track Wise User's Guide (2000), teach a automated planning system and method for managing of dependent tasks/activities in a business process (workflow)

wherein a task dependency data/attributes are defined (e.g. transition conditions/triggers between workflow states).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SCOTT L. JARRETT whose telephone number is (571)272-7033. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bradley Bayat can be reached on (571) 272-6704. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Scott L Jarrett/

Primary Examiner, Art Unit 3624